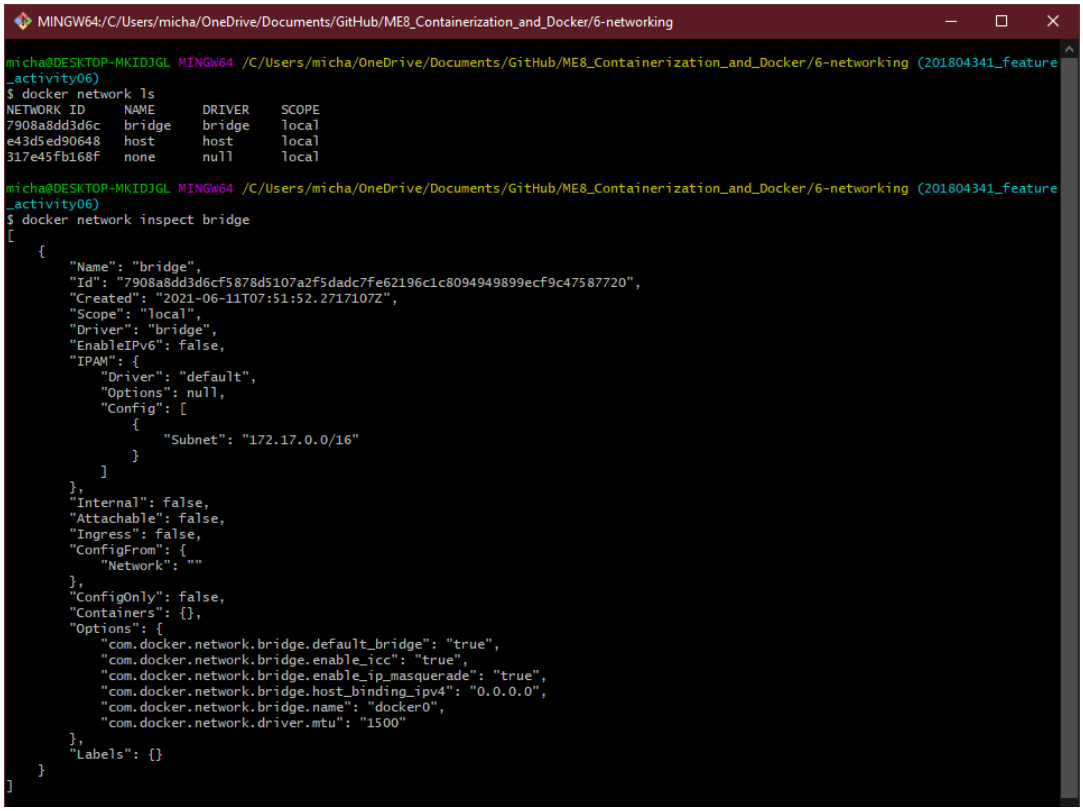
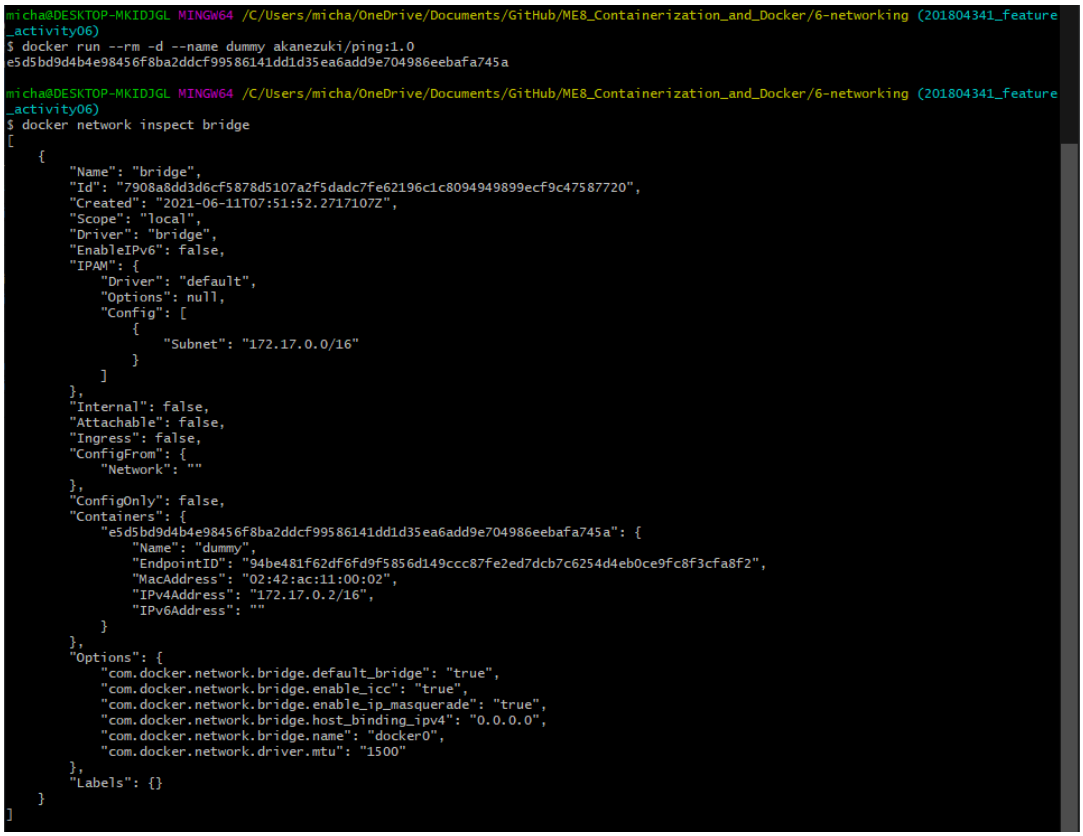
Listing networks and default bridge networks:



```
micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker run --rm -d -e PING_TARGET=172.17.0.2 --name pinger akanezuki/ping:1.0
1380f4637ccbd450e69bd141d33a8ae004a609e92c9087b39bbe0e438cd1be48

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker ps
CONTAINER ID   IMAGE                COMMAND                  CREATED         STATUS         PORTS     NAMES
1380f4637ccb   akanezuki/ping:1.0   "sh -c 'ping $PING_T…"   6 seconds ago   Up 4 seconds             pinger
e5d5bd9d4b4e   akanezuki/ping:1.0   "sh -c 'ping $PING_T…"   4 minutes ago   Up 4 minutes             dummy

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker logs pinger
PING 172.17.0.2 (172.17.0.2) 56(84) bytes of data.
64 bytes from 172.17.0.2: icmp_seq=1 ttl=64 time=0.078 ms
64 bytes from 172.17.0.2: icmp_seq=2 ttl=64 time=0.050 ms
64 bytes from 172.17.0.2: icmp_seq=3 ttl=64 time=0.048 ms
64 bytes from 172.17.0.2: icmp_seq=4 ttl=64 time=0.045 ms
64 bytes from 172.17.0.2: icmp_seq=5 ttl=64 time=0.051 ms
64 bytes from 172.17.0.2: icmp_seq=6 ttl=64 time=0.044 ms
64 bytes from 172.17.0.2: icmp_seq=7 ttl=64 time=0.050 ms
64 bytes from 172.17.0.2: icmp_seq=8 ttl=64 time=0.048 ms
64 bytes from 172.17.0.2: icmp_seq=9 ttl=64 time=0.035 ms
64 bytes from 172.17.0.2: icmp_seq=10 ttl=64 time=0.043 ms
64 bytes from 172.17.0.2: icmp_seq=11 ttl=64 time=0.054 ms
64 bytes from 172.17.0.2: icmp_seq=12 ttl=64 time=0.049 ms
64 bytes from 172.17.0.2: icmp_seq=13 ttl=64 time=0.043 ms
64 bytes from 172.17.0.2: icmp_seq=14 ttl=64 time=0.051 ms

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$
```

```
micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker run --rm -d -e PING_TARGET=dummy --name pinger akanezuki/ping:1.0
docker: Error response from daemon: Conflict. The container name "/pinger" is already in use by container "1380f4637ccbd450e69bd141d33
a8ae004a609e92c9087b39bbe0e438cd1be48". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run --help'.

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker stop dummy
dummy
```

Managing Custom Networks and Adding containers to a network:

```
micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker network create skynet
a6d7e9edc02709dce3578f853dd09c130466a08e1e53fa96624e86abfd28fdcb

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker network ls
NETWORK ID     NAME      DRIVER    SCOPE
7908a8dd3d6c   bridge    bridge    local
e43d5ed90648   host      host      local
317e45fb168f   none      null      local
a6d7e9edc027   skynet    bridge    local

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker run --rm -d --network skynet --name dummy akanezuki/ping:1.0
7d55ac6b31a2b80ae4c3ec550eef1dad3d196ae0996cb545e2c0d5c19fc45150

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker run --rm -d --network skynet -e PING_TARGET=dummy --name dummy akanezuki/ping:1.0
docker: Error response from daemon: Conflict. The container name "/dummy" is already in use by container "7d55ac6b31a2b80ae4c3ec550eef
1dad3d196ae0996cb545e2c0d5c19fc45150". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run --help'.

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker run --rm -d --network skynet -e PING_TARGET=dummy --name pinger akanezuki/ping:1.0
docker: Error response from daemon: Conflict. The container name "/pinger" is already in use by container "1380f4637ccbd450e69bd141d33
a8ae004a609e92c9087b39bbe0e438cd1be48". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run --help'.

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker ps
CONTAINER ID   IMAGE                  COMMAND                  CREATED              STATUS              PORTS     NAMES
7d55ac6b31a2   akanezuki/ping:1.0     "sh -c 'ping $PING_T…"   About a minute ago   Up About a minute             dummy
1380f4637ccb   akanezuki/ping:1.0     "sh -c 'ping $PING_T…"   12 minutes ago       Up 12 minutes                 pinger

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker images
REPOSITORY       TAG       IMAGE ID       CREATED       SIZE
akanezuki/ping   1.0       ffd4bad69719   4 hours ago   139MB
httpd            2.4       39c2d1c93266   2 weeks ago   138MB
ubuntu           16.04     9ff95a467e45   3 weeks ago   135MB
ches/kafka       latest    eb75f1fc93f6   3 years ago   704MB

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker network ls
NETWORK ID     NAME      DRIVER    SCOPE
7908a8dd3d6c   bridge    bridge    local
e43d5ed90648   host      host      local
317e45fb168f   none      null      local
a6d7e9edc027   skynet    bridge    local
```

Some errors popped up regarding the containers so I first stopped the dummy and pinger container and repeated the commands and it worked:

```
micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker stop dummy
dummy

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker stop pinger
pinger

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker volume ls
DRIVER    VOLUME NAME
local     httpd_htdocs

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker run --rm -d --network skynet --name dummy akanezuki/ping:1.0
8db882e13ee76125097ab108e42e3c4d091d165337398d1efb418bee722c803e

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker run --rm -d --network skynet -e PING_TARGET=dummy --name pinger akanezuki/ping:1.0
85debbe2d3069d52d4438f71c87a00ed9f2561d6317df58eb48ad14aa387a096

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker logs pinger
PING dummy (172.18.0.2) 56(84) bytes of data.
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=1 ttl=64 time=0.113 ms
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=2 ttl=64 time=0.049 ms
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=3 ttl=64 time=0.058 ms
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=4 ttl=64 time=0.064 ms
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=5 ttl=64 time=0.052 ms
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=6 ttl=64 time=0.049 ms
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=7 ttl=64 time=0.063 ms
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=8 ttl=64 time=0.091 ms
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=9 ttl=64 time=0.053 ms
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=10 ttl=64 time=0.048 ms

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$
```

Connecting between containers in a network:

```
micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker run --rm -d --name widgetdb --network skynet -p 5432 postgres
Unable to find image 'postgres:latest' locally
latest: Pulling from library/postgres
69692152171a: Already exists
a31b993d5cc6: Pull complete
f65921886500: Pull complete
b9c1a94e4ca8: Pull complete
435dd99ceb68: Pull complete
d3ee8e88c67c: Pull complete
84b08674f942: Pull complete
7d358e850d3e: Pull complete
c7dcc5801f3b: Pull complete
f6eeca01c79c: Pull complete
392faa2e3ddd: Pull complete
3e77feaf6319: Pull complete
9b42e6c9c7ba: Pull complete
5fce2660d75c: Pull complete
Digest: sha256:117c3ea384ce21421541515edfb11f2997b2c853d4fdd58a455b77664c1adc20
Status: Downloaded newer image for postgres:latest
68d0cda382c9787076ac5834a1eff2dd6f17d5dabc2205980c2ebcbf32683a9c

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker run --rm -d --name gadgetdb --network skynet -p 5432 postgres
f03ec1849d14db49987c8a7e249f2def66d678d11dd6689cf74e9af8c2b309e8

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$
```

The posgres image could not be found locally so it was downloaded.

```
micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (2018
_activity06)
$ docker run -it --name widgetdb --network skynet -p 5432 -d postgres
c555467aa20d05882c9d2417f5c21c06cfaf25c552cab967ff1680458a1bf5f7

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (2018
_activity06)
$ docker run -it --name gadgetdb --network skynet -p 5432 -d postgres
21c830809e11404a2b5009122405cb1ade6f8adc7190affaa77374aad03b1a36

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (2018
_activity06)
$ docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS     NAMES

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (2018
```

Even after running the commands from the instructions the containers do not run, so the command was modified based on the documentation of the postgres command:

```
micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker run -it --name widgetdb -e POSTGRES_PASSWORD=password --network skynet -p 5432 -d postgres
76d7a41a01f4ed6fbdeabb65d5b43ea9196c43d92aabdddc3d44a800827db630

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker run -it --name gadgetdb -e POSTGRES_PASSWORD=password --network skynet -p 5432 -d postgres
e9bff08594c3596a7c3b722ea3698cbd046b2ef34e71b27ac3dce465219f9777

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker sp
docker: 'sp' is not a docker command.
See 'docker --help'

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED          STATUS          PORTS                     NAMES
e9bff08594c3   postgres   "docker-entrypoint.s…"   13 seconds ago   Up 10 seconds   0.0.0.0:63112->5432/tcp   gadgetdb
76d7a41a01f4   postgres   "docker-entrypoint.s…"   37 seconds ago   Up 30 seconds   0.0.0.0:65468->5432/tcp   widgetdb
```

When executing the next command, git bash would fail to execute:

```
micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED          STATUS          PORTS                     NAMES
e9bff08594c3   postgres   "docker-entrypoint.s…"   13 seconds ago   Up 10 seconds   0.0.0.0:63112->5432/tcp   gadgetdb
76d7a41a01f4   postgres   "docker-entrypoint.s…"   37 seconds ago   Up 30 seconds   0.0.0.0:65468->5432/tcp   widgetdb

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$ docker exec -it widgetdb /bin/bash
OCI runtime exec failed: exec failed: container_linux.go:380: starting container process caused: exec: "C:/Program Files/Git/usr/bin/b
ash": stat C:/Program Files/Git/usr/bin/bash: no such file or directory: unknown

micha@DESKTOP-MKIDJGL MINGW64 /C/Users/micha/OneDrive/Documents/GitHub/ME8_Containerization_and_Docker/6-networking (201804341_feature
_activity06)
$
```

Using windows powershell I was able to run the command:

```
Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\micha> cd .\OneDrive\Documents\GitHub\ME8_Containerization_and_Docker\6-networking
PS C:\Users\micha\OneDrive\Documents\GitHub\ME8_Containerization_and_Docker\6-networking> docker exec -it widgetdb /bin/bash
root@76d7a41a01f4:/#
```

```
Windows PowerShell
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\micha> cd .\OneDrive\Documents\GitHub\ME8_Containerization_and_Docker\6-networking
PS C:\Users\micha\OneDrive\Documents\GitHub\ME8_Containerization_and_Docker\6-networking> docker exec -it widgetdb /bin/bash
root@76d7a41a01f4:/# psql -U postgres
psql (13.3 (Debian 13.3-1.pgdg100+1))
Type "help" for help.

postgres=#  \q
root@76d7a41a01f4:/# psql -U postgres -h gadgetdb
Password for user postgres:
psql (13.3 (Debian 13.3-1.pgdg100+1))
Type "help" for help.

postgres=#  \q
root@76d7a41a01f4:/# exit
exit
PS C:\Users\micha\OneDrive\Documents\GitHub\ME8_Containerization_and_Docker\6-networking>
```

The password set was also just “password”.

Binding ports to the host:

Initially the psql command would not run so I added the bin path of Postgres to the PATH in environment variables. This allowed the usage of psql in powershell: